

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims:

1-21. (Canceled)

22. (Currently amended) A transparent, non-elastomeric, ~~polythiourethane~~ poly(thio)urethane/urea material comprising the reaction product of:

- (a) at least one ~~(α , ω)-diisothiocyanate~~ (α , ω)-diisothiocyanate polysulfide prepolymer, said prepolymer being free from disulfide (-S-S-) linkage; and
- (b) at least one aromatic primary diamine, in an equivalent molar ratio amine function/~~isothiocyanate~~ isothiocyanate function (NH_2/NCX , $\text{X}=\text{O}$, S) ranging from 0.5 to 2, said aromatic primary diamine being free from disulfide (-S-S-) linkage,

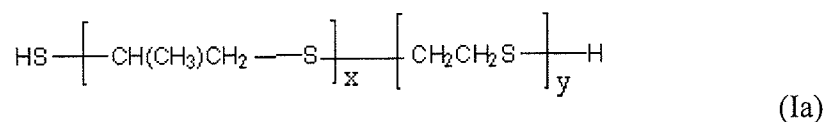
wherein the ~~(α , ω)-diisothiocyanate~~ (α , ω)-diisothiocyanate polysulfide prepolymer is the reaction product of at least one cycloaliphatic or aromatic ~~diisothiocyanate~~ diisothiocyanate and at least one (α , ω)-diol or dithiol prepolymer, said (α , ω)-diol or dithiol prepolymer being a polysulfide or a mixture of polysulfides.

23. (Currently Amended) The transparent, non elastomeric ~~polythiourethane~~ poly(thio)urethane/urea material of claim 22, wherein the equivalent ratio NH_2/NCX ranges from 0.90 to 1.10.

24. (Previously Presented) The material of claim 22, wherein the equivalent ratio NH_2/NCX ranges from 0.93 to 0.95.

25-27. (Canceled)

28. (Previously presented) The material of claim 22, wherein the polysulfide or mixture of polysulfides is a polysulfide of formula:

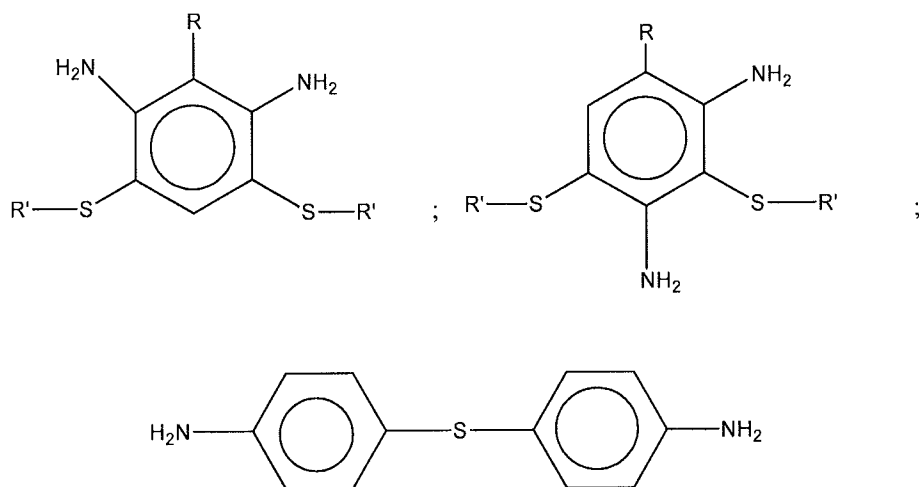


in which x and y are chosen such that the two following conditions are simultaneously satisfied:

- the polysulfide of formula Ia is a prepolymer; and
- the number average molecular weight of the polysulfide of formula Ia is not more than 3000 gmol^{-1} .

29. (Previously presented) The material of claim 22, wherein the aromatic diamine contains at least one S atom in its molecule.

30. (Previously presented) The material of claim 29 wherein the diamine is selected from

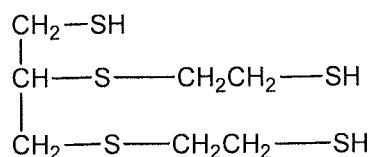
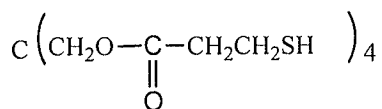
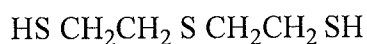


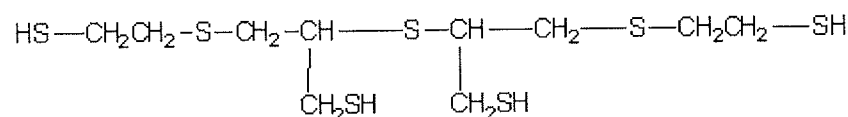
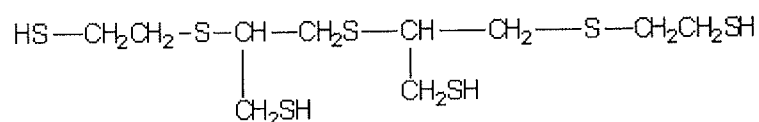
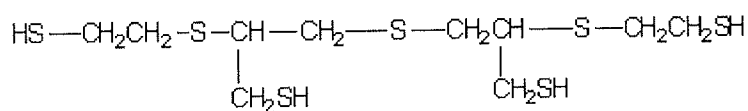
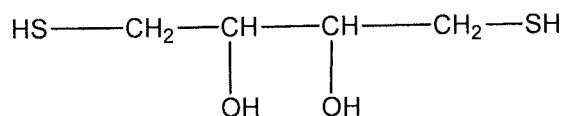
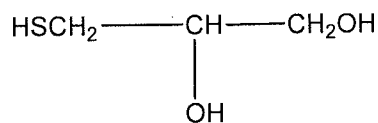
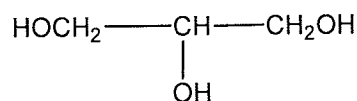
in which R is H or an alkyl group and R' is an alkyl group, and mixtures of the above diamines.

31. (Currently amended) The material of claim 22, wherein the material is the reaction product of:

- a) said at least one ~~(α , ω)-diisocyanate~~(α , ω)-diisothiocyanate polysulfide prepolymer;
- b) said at least one aromatic primary diamine; and
- c) at least one di-, tri-, or tetra alcohol, or at least one di-, tri-, or tetra thiol, or a mixture thereof.

32. (Currently amended) The material of claim 31, wherein the alcohols and thiols are selected from the ~~groups~~group consisting of:

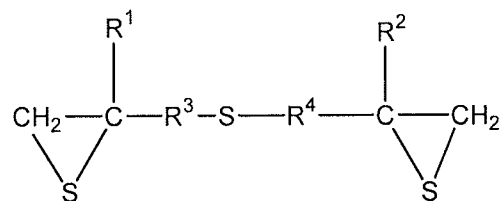




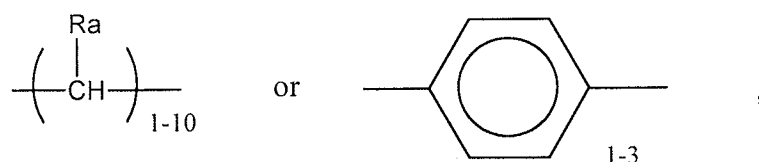
and mixtures thereof.

33. (Previously presented) The material of claim 22 having a refractive index, n_D^{25} , higher than 1.53.
34. (Previously presented) The material of claim 22 having a refractive index, n_D^{25} , of at least 1.55.
35. (Previously presented) The material of claim 22 having a refractive index, n_D^{25} , of at least 1.57.

36. (Previously presented) The material of claim 22, wherein the polysulfide is an hyperbranched polysulfide resulting from the polymerization of a diepisulfide of formula:

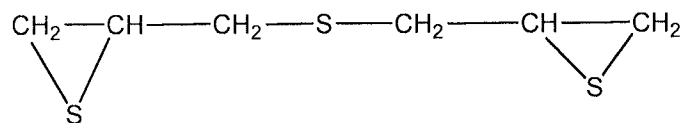


in which R^1 and R^2 are, independently from each other, H, alkyl, aryl, alkoxy, alkylthio or arylthio, R^3 and R^4 are independently from each other,



Ra designates H, alkyl, aryl, alkoxy, aryloxy, alkylthio or arylthio, with 2-mercaptoethyl sulfide (DMES).

37. (Previously presented) The material of claim 36, wherein the diepisulfide has formula :

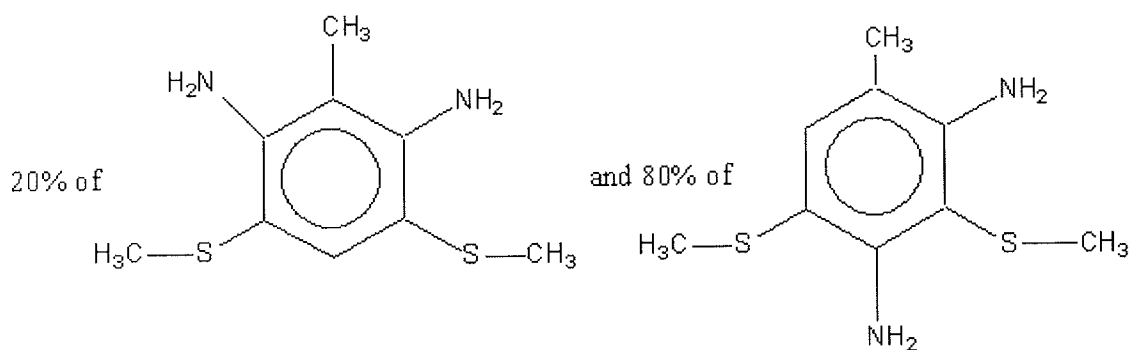


38. (Previously presented) An optical article made from a material according to claim 22.
39. (Previously presented) The material of claim 48, wherein n' is such that the number average molecular weight (\overline{M}_n) of the prepolymer ranges from 650 to 1350 g mol⁻¹.
40. (Previously presented) The material of claim 22, wherein the prepolymer is the reaction product of at least one (α , ω) dithiol prepolymer.

41. (Canceled)

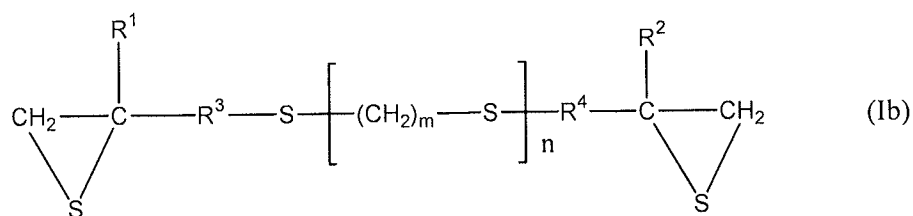
42. (Previously presented) The material of claim 30, wherein R and R' are CH₃.

43. (Previously presented) The material of claim 30, wherein the diamine is a mixture of by weight:

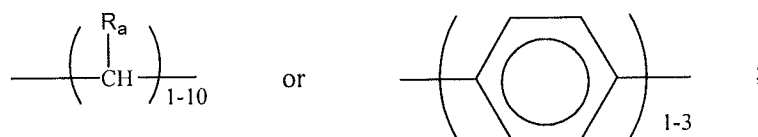


44-46. (Canceled)

47. (Previously presented) The material of claim 22, wherein the polysulfide or mixture of polysulfides is a prepolymer resulting from the polymerization of diepisulfides of formula:

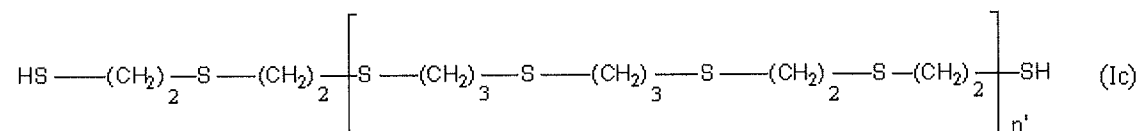


in which R¹ and R² are, independently from each other, H, alkyl, aryl, alkoxy, alkylthio or arylthio; R³ and R⁴ are, independently from each other,



R_a designates H, alkyl, aryl, alkoxy, aryloxy, alkylthio or arylthio and, n is an integer from 0 to 4 and m is an integer from 1 to 6.

48. (Currently amended) The material of claim 22, wherein the polysulfide or mixture of polysulfides is ~~selected from the group consisting of:~~
~~-Prepolymers~~ a prepolymer of the formula:



where n' is such that the number average molecular weight (\overline{M}_n) of the prepolymer ranges from 500 to 1500 g mol⁻¹.

49. (Currently amended) The material of claim 22, wherein the at least one ~~(α , ω)-~~
~~diiso(thio)cyanate~~ (α , ω)-diisothiocyanate polysulfide prepolymer has a number average molecular weight of not more than 3000 g mol⁻¹.